Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) Measuring arrangement for testing workpieces,

having an optical fiber assigned to a workpiece, wherein the optical fiber is designed as a Bragg grating sensor, and wherein the optical fiber is arranged in a region of a surface of the workpiece, wherein the optical fiber designed as a Bragg grating sensor is integrated in the surface of the workpiece,

and wherein a recess is introduced into the surface of the workpiece, said recess having a breadth and depth matched to a diameter of the optical fiber designed as a Bragg grating sensor such that no metallic material is included in the recess, and wherein the optical fiber is arranged in the recess.

2. – 4. (Cancelled)

5. (Previously Presented) The measuring arrangement according to claim 1, further comprising a second optical fiber designed as a Bragg grating sensor and wherein the second optical fiber is arranged in a geometrical configuration different from the optical fiber.

6. (Previously Presented) The measurement arrangement according to claim 5, wherein the second optical fiber designed as a Bragg grating sensor is arranged with a curvature that is different from the optical fiber.

7. (Previously Presented) The measuring arrangement according to claim 1, wherein the optical fiber designed as a Bragg grating sensor is arranged without curvature in a form of a straight line in the region on the surface of the workpiece.

8. (Previously Presented) The measuring arrangement according to claim 1, wherein the optical fiber designed as a Bragg grating sensor is arranged in a form of an angular straight line in the region on the surface of the workpiece in such a way that a first section of the fiber is angled off from a second section thereof.

9. (Previously Presented) The measuring arrangement according to claim 1, wherein the optical fiber designed as a Bragg grating sensor is arranged on the surface of the workpiece in such a way that the optical fiber has at least one of a curved section of approximately 90 degrees and a curved section of approximately 180 degrees.

10. (Previously Presented) The measuring arrangement according to claim 1, wherein the workpiece is designed as a dynamically loaded component.

11. (Previously Presented) The measuring arrangement according to claim 1, wherein the arrangement is used to determine the properties of a dynamically loaded component.

12. (Currently Amended) Method for metrological instrumentation of workpieces, comprising the steps of:

arranging an optical fiber designed as a Bragg grating sensor in a region of a surface of the workpiece; and

integrating the optical fiber designed as a Bragg grating sensor in the surface of the workpiece in a recess in the surface of the workpiece wherein a width and depth of the recess is matched to a diameter of the optical fiber designed as a Bragg grating sensor <u>such that no metallic material is included in the recess</u>.

13. – 14. (Cancelled)

15. (Previously Presented) The method according to claim 12, wherein a second optical fiber designed as a Bragg grating sensor is arranged in a different geometrical configuration from the optical fiber.

16. (Cancelled)

17. (Previously Presented) The measuring arrangement according to claim 10, wherein the workpiece is designed as a blade of a turbine or housing of a turbine.

18. (Cancelled)

19. (Previously Presented) The method according to claim 15, wherein said different geometrical configuration is a curvature.

20. (Previously Presented) The measuring arrangement according to claim 11, wherein said dynamically loaded component is a blade of a turbine or a housing of a turbine.

21. (New) The measuring arrangement according to claim 1, wherein the workpiece is a turbine blade and wherein the optical fiber is guided through a blade root of the turbine blade.

22. (New) The measuring arrangement according to claim 1, further comprising an electronic evaluation system and wherein a measured vibration and/or temperature is provided from the Bragg grating sensor to the electronic evaluation system.

23. (New) The measuring arrangement according to claim 1, wherein the optical fiber is a polyimide-coated glass fiber.

24. (New) The measuring arrangement according to claim 1, wherein the Bragg grating sensor measures a vibration and/or a temperature of the workpiece.

25. (New) The method according to claim 12, wherein the workpiece is a turbine blade and wherein the optical fiber is guided through a blade root of the turbine blade.

26. (New) The method according to claim 12, further comprising the step of providing a measured vibration and/or temperature from the Bragg grating sensor to an electronic evaluation system.

27. (New) The method according to claim 12, wherein the optical fiber is a polyimide-coated glass fiber.

28. (New) The method according to claim 12, further comprising the step of measuring a vibration and/or a temperature of the workpiece by the Bragg grating sensor.